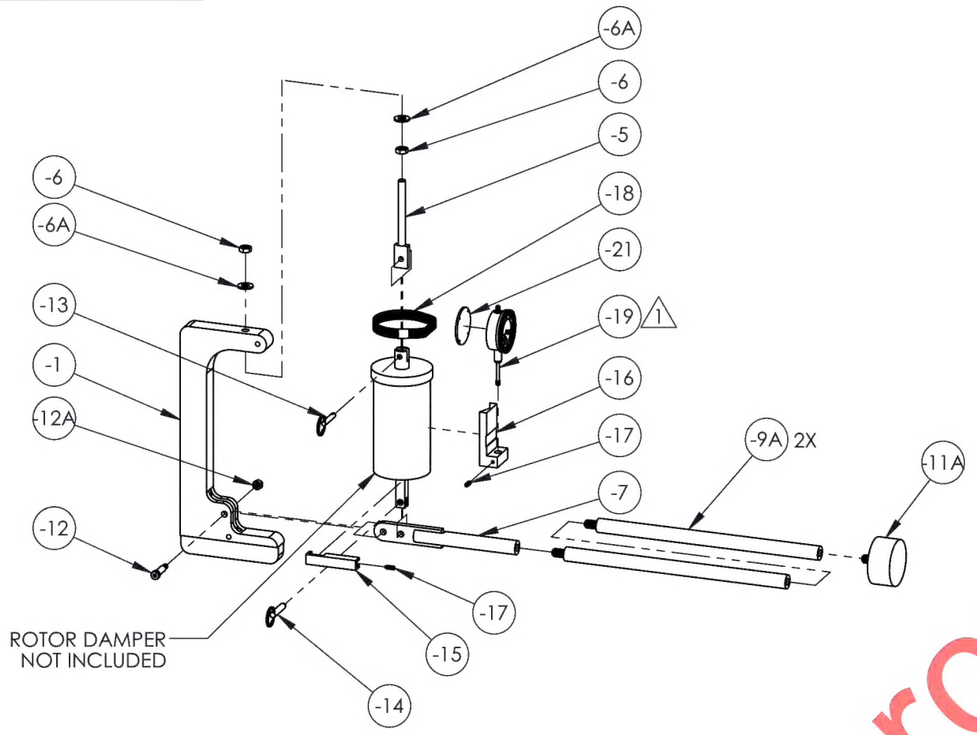
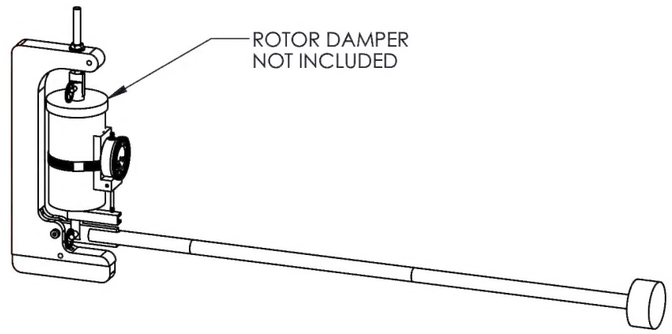



| REVISIONS | | | | | |
|---|---|---|---|---|---|
| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
| 1 | | -10 WAS CUT STUDS; -16 TOLERANCE REDUCED TO ENSURE CLEARANCE FOR DIAL INDICATOR. | 8/17/2000 | - | - |
| 2 | | CUT -1 FRAME BACK TO .375 NEXT TO Ø5/16 HOLE FOR CLEARANCE. | 10/30/2001 | - | - |
| 3 | | CHANGED -1 SCREW HOLE FROM "REAM TO .3125"; -11 ADDED MACHINE TO WEIGHT & SEE TESTING & ENGRAVING; ALSO CREATED A TESTING & WEIGHT CERTIFICATION DWG. | 8/16/2007 | WP | RW |
| 4 | | COMBINED NINE FILES INTO ONE; INSTALLED NEW TITLE BLOCK, BOM, & REV. TABLE; CREATED CUSTOMER NEW DWG'S; SEPARATED -5 THREADED ROD & -5 TOP BOLT TO -5 TOP BOLT WELDMENT & -5a ALL THREAD; SEPARATED -7 TAB & -7 PIVOT BAR TO -7 PIVOT BAR WELDMENT & -7a PIVOT BAR TAB; CHANGED -12 Ø5/16x1 PIN TO -12 SCREW & -12a NYLOCK NUT; CHANGED STAKE OR PIN -10 TO USE LOCTITE 609. | 11/29/2007 | WP | RW |
| 5 | | ADDED SUPPORT SUPPORT WEIGHT NOTE TO CUSTOMER INSTRUCTIONS, AND -9 MUST REMAIN LEVEL TO TESTING INSTRUCTIONS. PER DAVE'S NOTES. | 11/29/2007 | WP | DW |
| 6 | | CHANGED -1 PIVOT HOLE FROM Ø.257 TO Ø5/16 REAMED; -7a PIVOT HOLE FROM Ø.257 TO Ø5/16 REAMED; AND -12 FROM SOCKET HEAD CAP SCREW 1/4-20 X 1-1/2 TO SOCKET HEAD SHOULDER BOLT Ø5/16 X 1. APPLIED PHANTOM BOXES TO PARTS FOR CLARITY. UPDATED CUSTOMER DWGS. | 6/17/2009 | WP | G.E. |
| 6A | | CORRECTED DIM P/N -5a FROM 1/2-24 UNF. | 7/30/2009 | RJC | |
| 7 | | CH'D P/N -10 SETSCREW DEPTH TO .75 PER G.E. | 9/28/2009 | RJC | |
| 8 | | CHANGED INSIDE HOLE ON -7A FROM Ø.313 TO REAM Ø.3125. ALSO CORRECTED ERROR IN BOM, -14 WAS REED #FPSC-4-10, NOW #FPSC-5-10R. | 9/28/2009 | WP | |
| 8A | | CH'D Ø.375 REAMED TO THRU PER G.E. | 8/24/2010 | WP | G.E. |
| 8B | | ADDED CUSTOMER INFO TO MANUFACTURING DWGS. PER R.W. | 11/2/2010 | RJC | RW |
| 8C | | ADDED -19 TO SHOW MODIFICATION OF DIAL INDICATOR AND MOUNTING PER R.W. | 7/12/2011 | RJC | RW |
| 8D | | CH'D TITLEBLOCK TOLERANCES FROM .XXX ±.005 & .XX ±01 PER G.E. | 2/15/2012 | RJC | RW |
| 9 | | MOVED ALL PARTS TO SEPARATE SHEETS. **-1** ADDED Ø.25 TOOLING HOLE. **-16** ADDED R.25 LEFT .30 DIM TO THEORETICAL POINT. | 8/7/2013 | RJC | DW |
| 10 | 16-0096 | UPDATED TO NEW STANDARDS. ADDED CALIBRATION NOTE. **-1** CH'D DIMS WAS Ø.375 THRU IS Ø.375 ↧1.00, WAS REAM Ø.3125 IS Ø.3152-.3192 THRU ALL (S.F. -12), WAS 1.00 IS 2X 1.00, WAS (.125) IS .13. **-3** CH'D MAT'L WAS 1018 IS 1018/1020 CR. CH'D DIM WAS Ø.250 S.F. -13 IS Ø.250-.254 THRU ALL (S.F. -13). **-5A** CH'D DIMS WAS 3/8-24 UNF IS (3/8-24 UNF-2A), WAS 3.625 IS 3.63. ADDED B/O #92580A109. **-6** ADDED B/O #93839A815. **-6A** ADDED B/O #90108A417. **-7** DELETED SAND TO FIT CALLOUT. **-7A** CH'D MAT'L WAS 1018 IS 1018/1020 CR. CH'D DIMS WAS Ø.313 S.F. -14 IS Ø.3125-.3165 THRU ALL (S.F. -14). WAS REAM Ø.313 IS Ø.3152-.3192 THRU ALL (S.F. -12), WAS .310 IS .310 +.000 -.010 (S.F. -8). WAS .500 IS 2X .500. **-8** ADDED RADIUS TO END OF SLOT. CH'D DIMS WAS .188 WALL IS .19, WAS .315 SLOT S.F. -7A IS .315 +.010 -.000 (S.F. -7A). **-9** CH'D DIM WAS .188 WALL IS .19. **-9A** ADDED TO BOM. **-10** ADDED B/O #91375A673. **-11** REMOVED RB LOGO, ACTUAL WEIGHT, AND OPERATORS INITIALS FROM ENGRAVE NOTE. **-11A** ADDED TO BOM. **-12A** ADDED B/O #95615A120. **-15** CH'D DIM WAS R.125 IS FULL R. **-15** CH'D DIMS WAS R.125 IS FULL R, WAS 10-24 UNC IS 10-24 UNC-2B ↧1.86. **-17** ADDED B/O #92845A245. **-18** ADDED B/O #5416K41. | 8/4/2016 | DPD | JAG |
| 11 | 17-0069 | **-9A** CH'D LOCTITE NUMBER WAS 609 IS 262. **-11** CORRECTED SPELLING ON ENGRAVING WAS "CALIBRATIED" IS "CALIBRATED". **-11A** CH'D LOCTITE NUMBER WAS 609 IS 262. **-19** WAS MODIFIED IS B/O. DELETED DWG. **-21** ADDED TO BOM QTY 1. **-23** ADDED TO BOM QTY 1. | 3/22/2017 | DPD | JAG |



| ASSY QTY | ASSY QTY | ASSY QTY | ASSY QTY | B/O | Part # | UNIT QTY | Description | Material | B/O INFORMATION OR SPECIFICATIONS | PG. |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | -1 | 1 | FRAME | 6061 | | 2 |
| | | | 1 | | -3 | | TOP BOLT TAB | 1018/1020 CR | | 3 |
| | | | X | | -5 | 1 | TOP BOLT WELDMENT | | | 4 |
| | | | 1 | | -5A | | ALL THREAD | STEEL | 3/8-24 (MCMASTER-CARR #92580A109) MODIFIED | 5 |
| | | | | B/O | -6 | 2 | JAM NUT | STEEL | 3/8-24, GRADE 8 (MCMASTER-CARR #93839A815) | 1 |
| | | | | B/O | -6A | 2 | FLAT WASHER | STEEL | Ø3/8 (MCMASTER-CARR #90108A417) | 1 |
| | | X | | | -7 | 1 | PIVOT BAR WELDMENT | | | 6 |
| | | 1 | | | -7A | | PIVOT BAR TAB | 1018/1020 CR | | 7 |
| | | 1 | | | -8 | | TUBE | CDS | | 8 |
| | 1 | | | | -9 | | EXTENSION | CDS | | 9 |
| | X | | | | -9A | 2 | EXTENSION ASSEMBLY | | | 10 |
| 1 | 1 | | | B/O | -10 | | SOCKET HEAD SET SCREW | STEEL | 7/16-24 X 1-1/2 (MCMASTER-CARR #91375A673) | 10 & 12 |
| 1 | | | | | -11 | | WEIGHT | BRASS | | 11 |
| X | | | | | -11A | 1 | WEIGHT ASSEMBLY | | | 12 |
| | | | | B/O | -12 | 1 | SOCKET HEAD SHOULDER BOLT | STEEL | 1/4-20 X 7/16, Ø5/16 X 1 SHOULDER (MCMASTER-CARR #91259A583) | 1 |
| | | | | B/O | -12A | 1 | NYLON LOCK NUT | STEEL | 1/4-20 (MCMASTER-CARR #95615A120) | 1 |
| | | | | B/O | -13 | 1 | QUICK RELEASE PIN | S.S. | Ø1/4 X 1 (ESSENTRA COMPONENTS #FPSC4-10R) | 1 |
| | | | | B/O | -14 | 1 | QUICK RELEASE PIN | S.S. | Ø5/16 X 1 (ESSENTRA COMPONENTS #FPSC5-10R) | 1 |
| | | | | | -15 | 1 | CLEVIS BRACKET | 6061 | | 13 |
| | | | | | -16 | 1 | INDICATOR BRACKET | 6061 | | 14 |
| | | | | B/O | -17 | 2 | SOCKET HEAD SET SCREW (DOG POINT) | S.S. | #10-24 X 1/2 (MCMASTER-CARR #92845A245) | 1 |
| | | | | B/O | -18 | 1 | HOSE CLAMP | S.S. | Ø3-1/16 TO Ø4 X 1/2 (MCMASTER-CARR #5416K41) | 1 |
| | | | | B/O | -19 | 1 | 1 in. DIAL INDICATOR | | (PAC-WEST #AGD-2) ⚠1 | 15 |
| | | | | B/O | -21 | 1 | FLAT BACK FOR DIAL INDICATOR | | FOR AGD GROUP 2 DIAL INDICATOR (MCMASTER-CARR #20625A914) | 1 |
| | | | | B/O | -23 | 1 | LARGE PISTOL CASE | PLASTIC | (RSR GROUP #10164) | N/S |
| ASSY -1A | ASSY -9A | ASSY -7 | ASSY -5 | B/O | DAMPER | | | | | |




NOTE:
⚠1 CALIBRATED UPON CUSTOMER REQUEST.

DART AEROSPACE

TITLE
# ROTOR DAMPER TEST DEVICE

| DWG NO. | REV |
|---|---|
| RBT18520 | 11 |

| | |
|---|---|
| MAT'L | |
| HEAT TREAT | |
| FINISH | |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125√

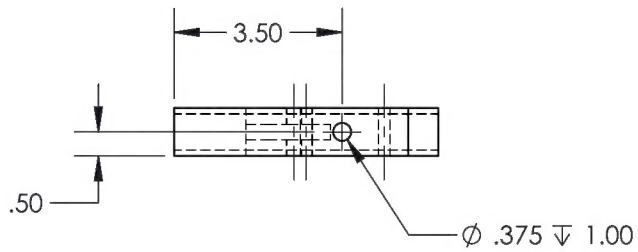
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

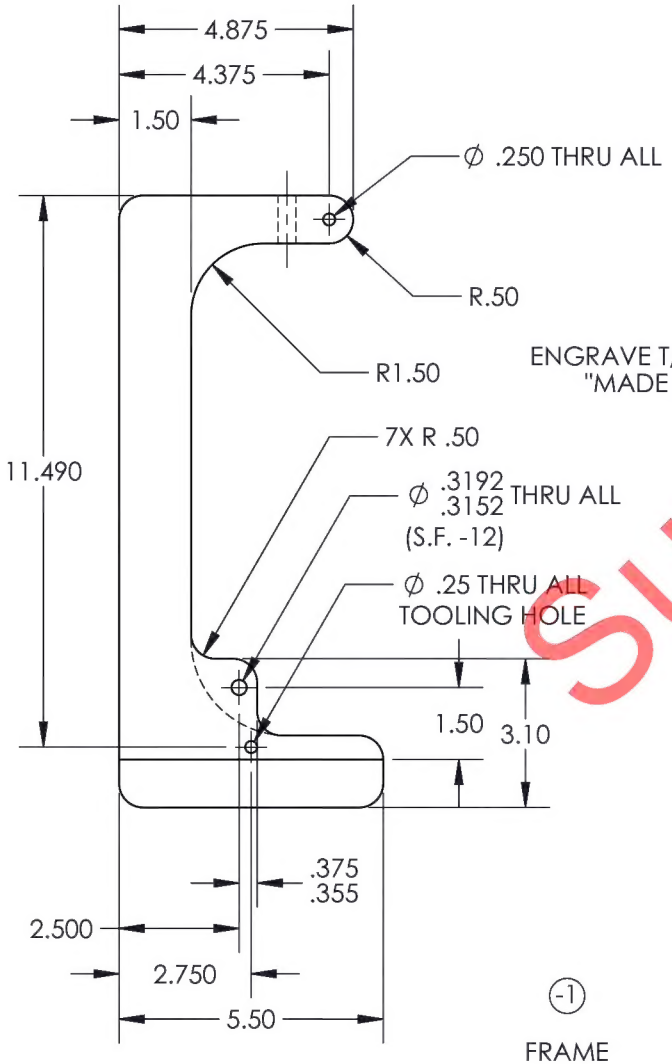
USED ON MODEL

| SCALE | DATE | |
|---|---|---|
| 1:8 | 8/17/2000 | SHEET 1 OF 17 |

REVISIONS

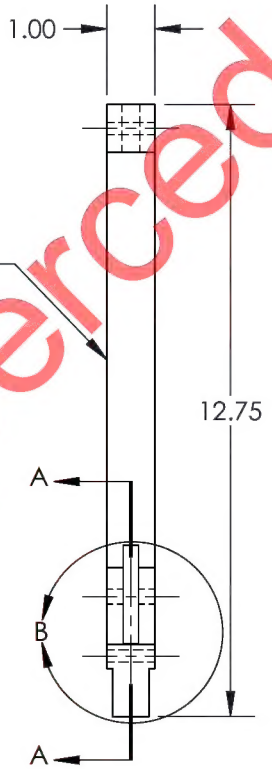
| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 6 | | CHANGED -1 PIVOT HOLE FROM Ø.257 TO Ø5/16 REAMED | 6/17/2009 | WP | G.E. |
| 8A | | CH'D Ø.375 REAMED TO THRU PER G.E. | 8/24/2010 | WP | G.E. |
| 9 | | -1 ADDED Ø.25 TOOLING HOLE. | 8/7/2013 | RJC | DW |
| 10 | 16-0096 | **-1** CH'D DIMS WAS Ø.375 THRU IS Ø.375 ↧ 1.00, WAS REAM Ø.3125 IS Ø.3152-.3192 THRU ALL (S.F. -12), WAS 1.00 IS 2X 1.00, WAS (.125) IS .13. | 8/4/2016 | DPD | JAG |

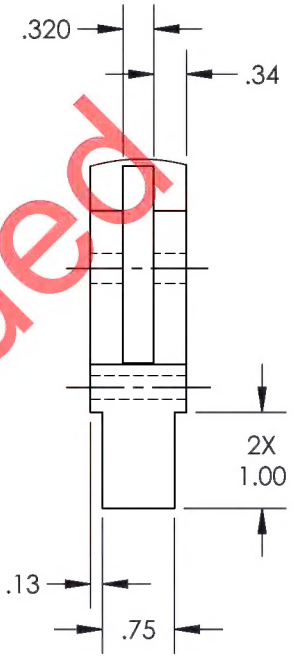


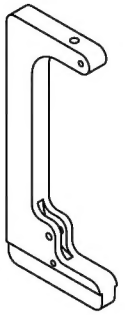

-1

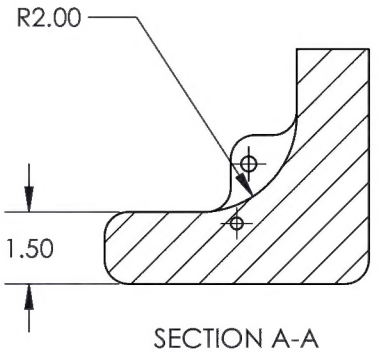
FRAME




DETAIL B
SCALE 1 : 2






SECTION A-A



DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-1 REV 11

| | |
|---|---|
| MAT'L | 6061 |
| HEAT TREAT | |
| FINISH | BLACK ANODIZE |
| SPEC | MIL-A-8625F, TYPE II, CLASS II |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125 √

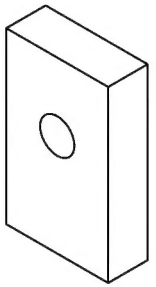
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

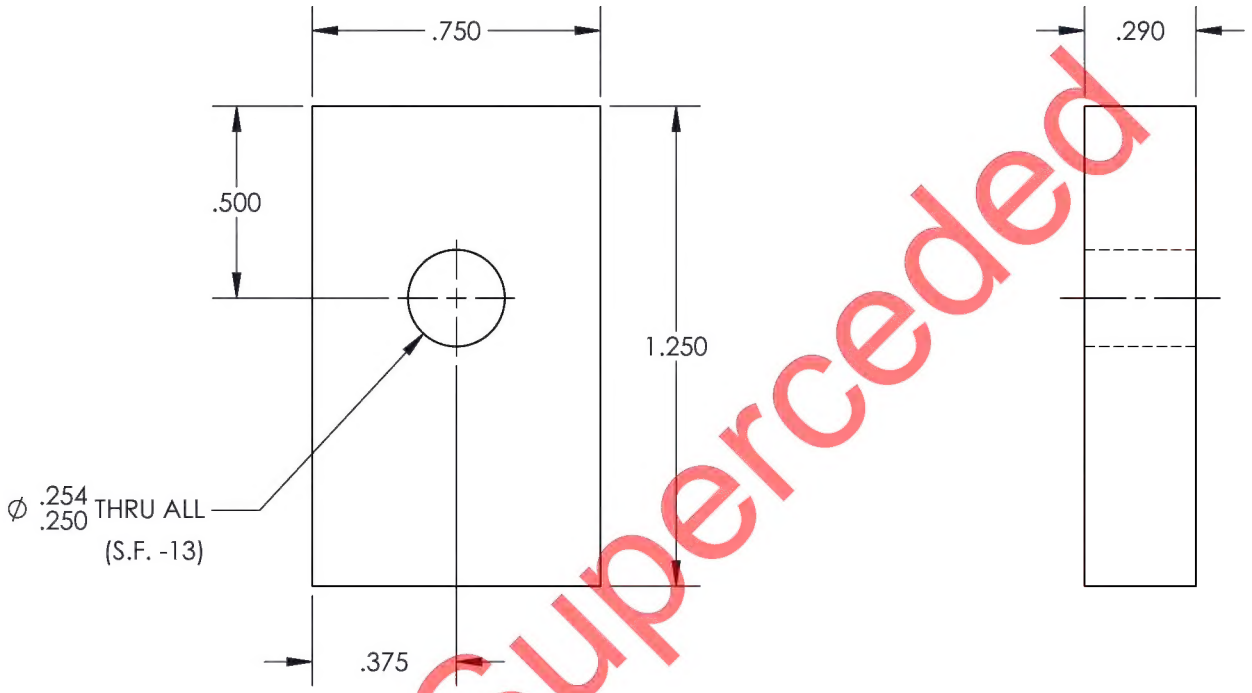
USED ON MODEL

SCALE 1:4 | DATE 8/17/2000 | SHEET 2 OF 17

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 10 | 16-0096 | **-3** CH'D MAT'L WAS 1018 IS 1018/1020 CR. CH'D DIM WAS Ø.250 S.F. -13 IS Ø.250-.254 THRU ALL (S.F. -13). | 8/4/2016 | DPD | JAG |








-3

TOP BOLT TAB

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-3 REV 11

| | |
|---|---|
| MAT'L | 1018/1020 CR |
| HEAT TREAT | |
| FINISH | SEE -5 |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

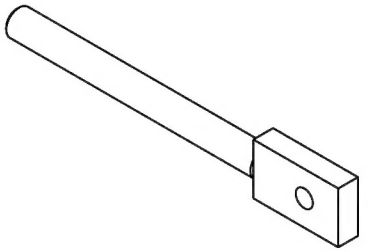
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

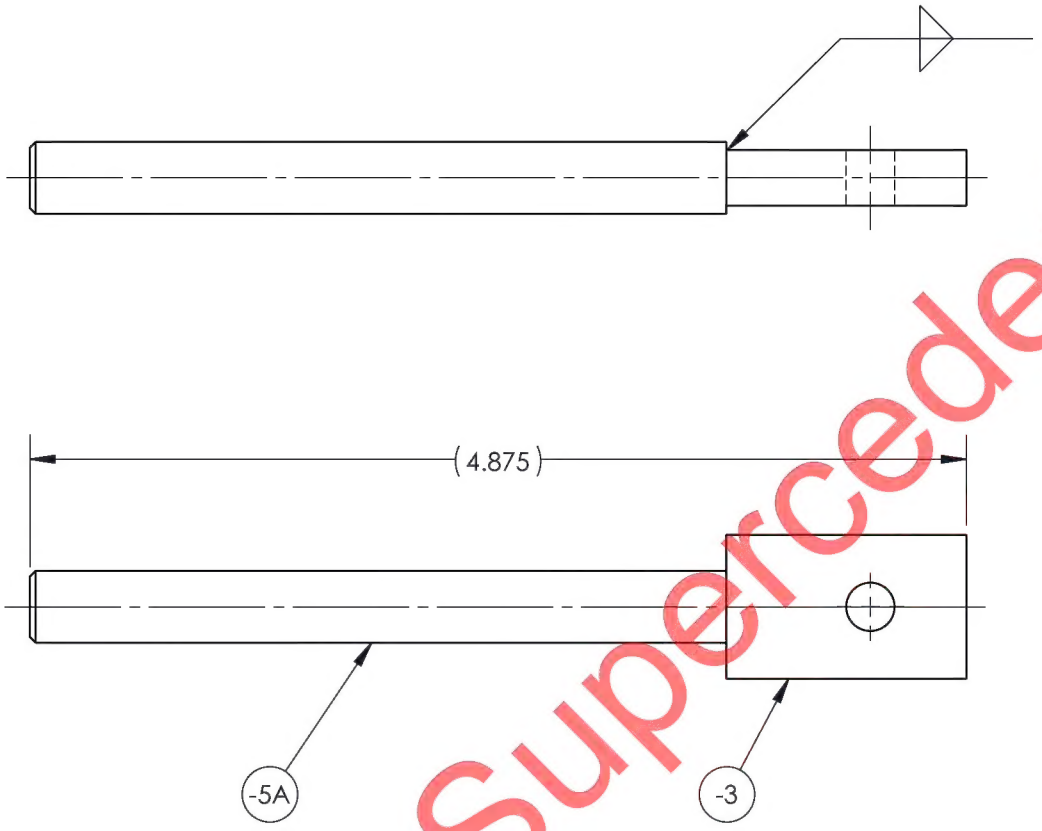
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL

SCALE 2:1 | DATE 8/17/2000 | SHEET 3 OF 17

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |








-5

TOP BOLT WELDMENT

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-5 REV 11

| | |
|---|---|
| MAT'L | |
| HEAT TREAT | |
| FINISH | BLACK OXIDE |
| SPEC | QMSI-6.2.2 REV D |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

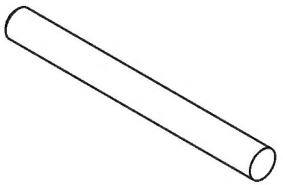
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

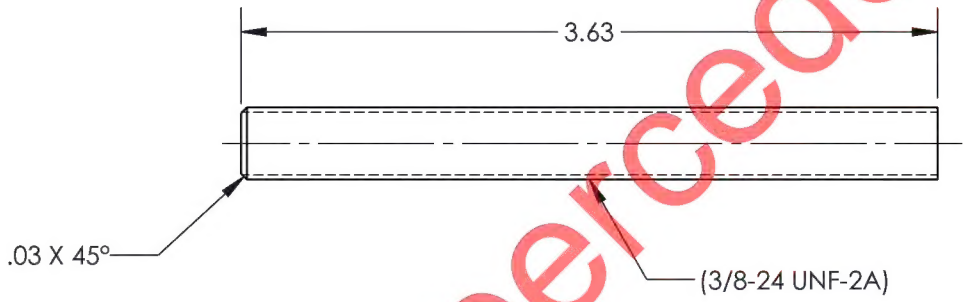
USED ON MODEL

SCALE 1:1 | DATE 8/17/2000 | SHEET 4 OF 17

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 6A | | CORRECTED DIM P/N -5a FROM 1/2-24 UNF. | 7/30/2009 | RJC | - |
| 10 | 16-0096 | **-5A** CH'D DIMS WAS 3/8-24 UNF IS (3/8-24 UNF-2A), WAS 3.625 IS 3.63. | 8/4/2016 | DPD | JAG |








-5A

ALL THREAD

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-5A REV 11

| | |
|---|---|
| MAT'L | STEEL |
| HEAT TREAT | |
| FINISH | SEE -5 WELDMENT |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

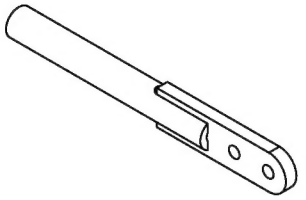
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

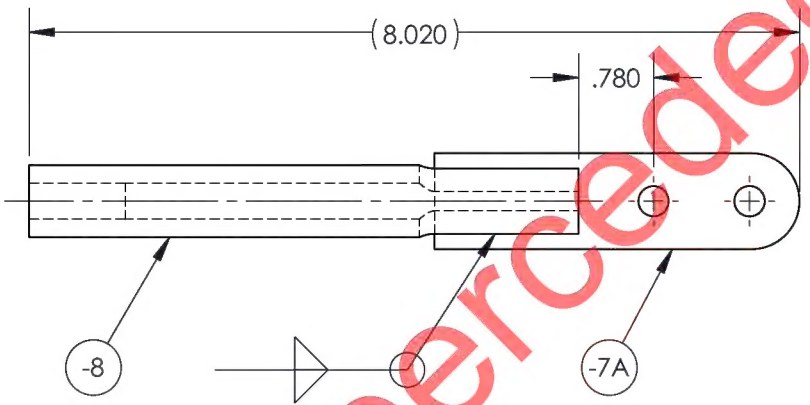
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL

SCALE 1:1 | DATE 8/17/2000 | SHEET 5 OF 17

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
| 10 | | **-7** DELETED SAND TO FIT CALLOUT. | 8/4/2016 | DPD | JAG |








-7

PIVOT BAR WELDMENT

DART AEROSPACE

TITLE
ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-7 REV 11

| | |
|---|---|
| MAT'L | |
| HEAT TREAT | |
| FINISH | BLACK OXIDE |
| SPEC | QMSI-6.2.2 REV D |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

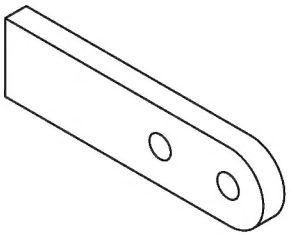
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

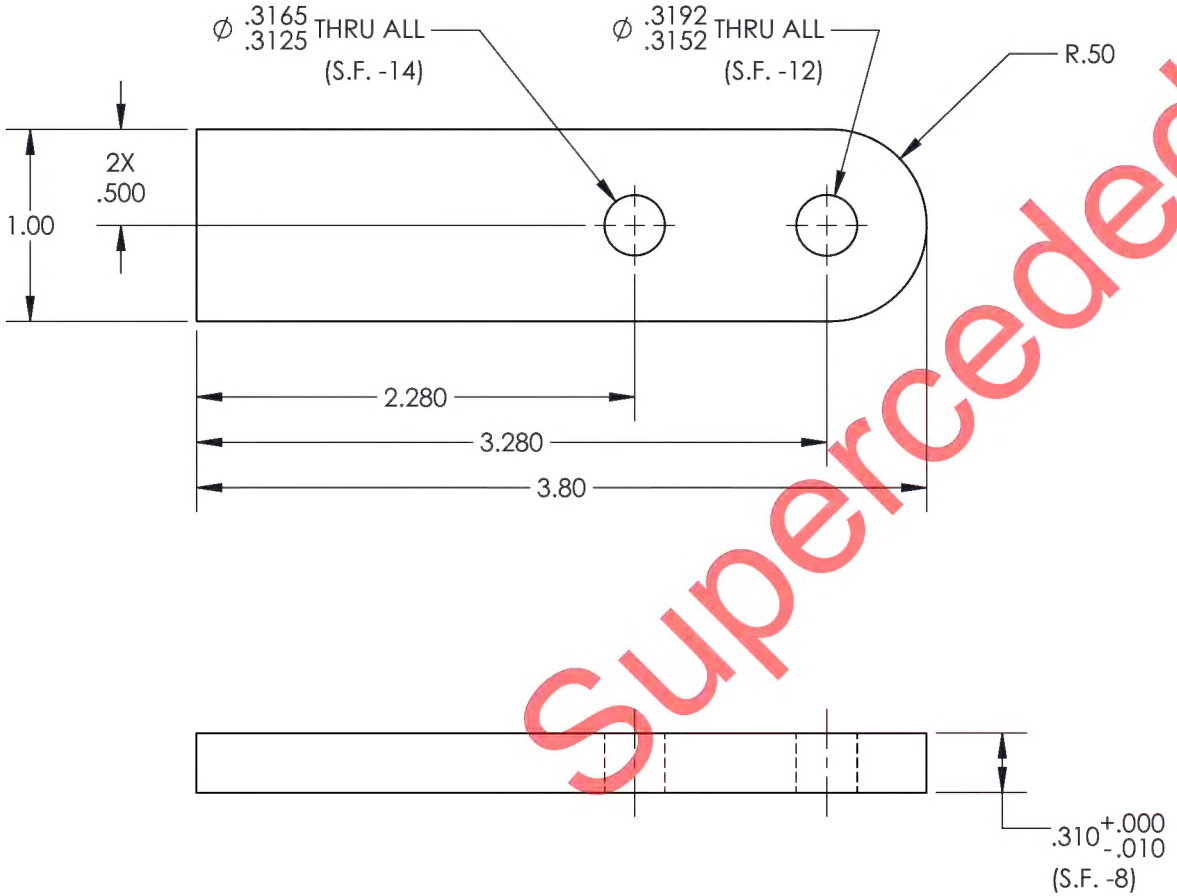
USED ON MODEL

SCALE 1:2 DATE 8/17/2000 SHEET 6 OF 17

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 10 | 16-0096 | **-7A** CH'D MAT'L WAS 1018 IS 1018/1020 CR. CH'D DIMS WAS Ø.313 S.F. -14 IS Ø.3125-.3165 THRU ALL (S.F. -14). WAS REAM Ø.313 IS Ø.3152-.3192 THRU ALL (S.F. -12), WAS .310 IS .310 +.000 -.010 (S.F. -8), WAS .500 IS 2X .500. | 8/4/2016 | DPD | JAG |








-7A

PIVOT BAR TAB

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-7A REV 11

| | |
|---|---|
| MAT'L | 1018/1020 CR |
| HEAT TREAT | |
| FINISH | SEE -7 WELDMENT |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

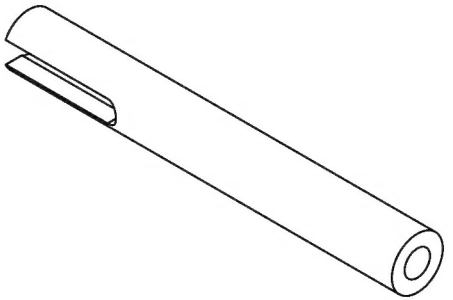
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

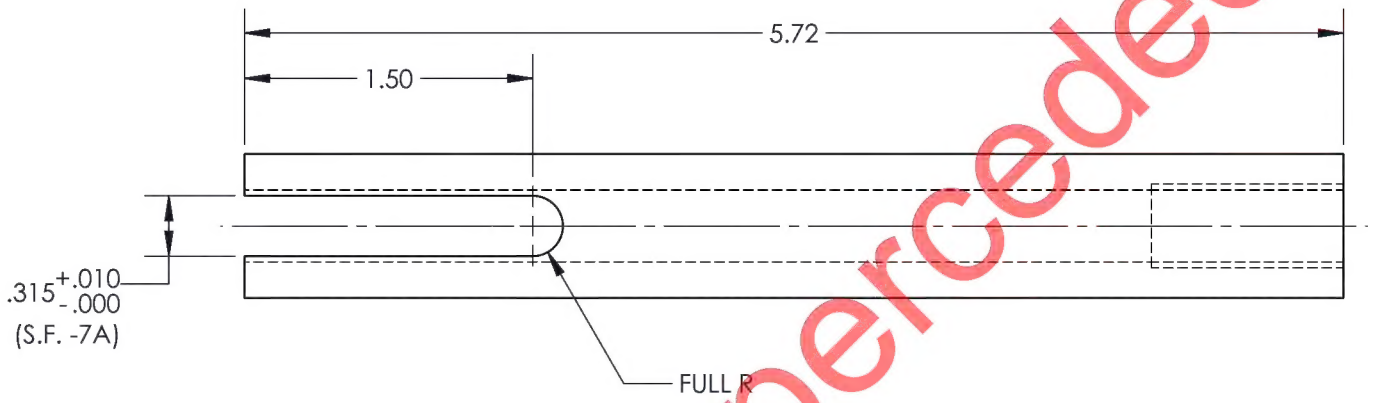
USED ON MODEL

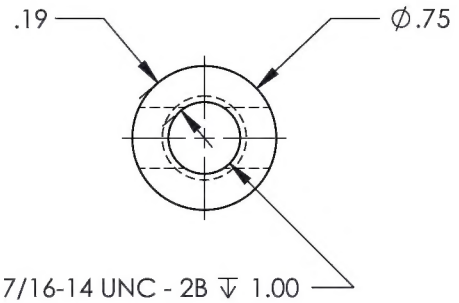
SCALE 1:1 | DATE 8/17/2000 | SHEET 7 OF 17

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 10 | 16-0096 | **-8** ADDED RADIUS TO END OF SLOT. CH'D DIMS WAS .188 WALL IS .19. WAS .315 SLOT S.F. -7A IS .315 +.010 -.000 (S.F. -7A). | 8/4/2016 | DPD | JAG |








-8

TUBE

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-8 REV 11

| | |
|---|---|
| MAT'L | CDS |
| HEAT TREAT | |
| FINISH | SEE -7 WELDMENT |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125√

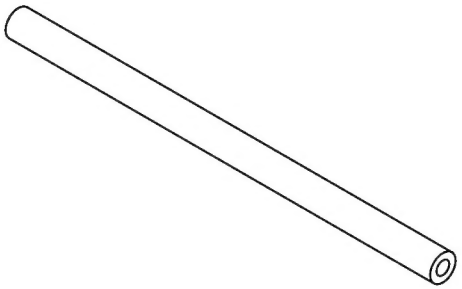
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL

SCALE 1:1 | DATE 8/17/2000 | SHEET 8 OF 17

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 10 | 16-0096 | **-9** CH'D DIM WAS .188 WALL IS .19. | 8/4/2016 | DPD | JAG |






(-9)

EXTENSION

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-9 REV 11

| | |
|---|---|
| MAT'L | CDS |
| HEAT TREAT | |
| FINISH | BLACK OXIDE |
| SPEC | QMSI-6.2.2 REV D |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125√

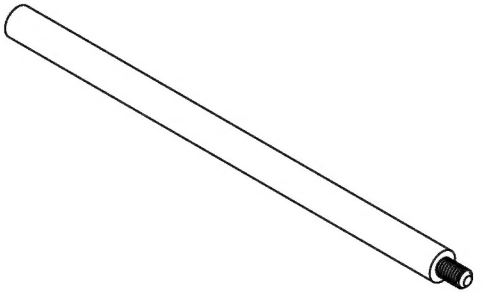
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

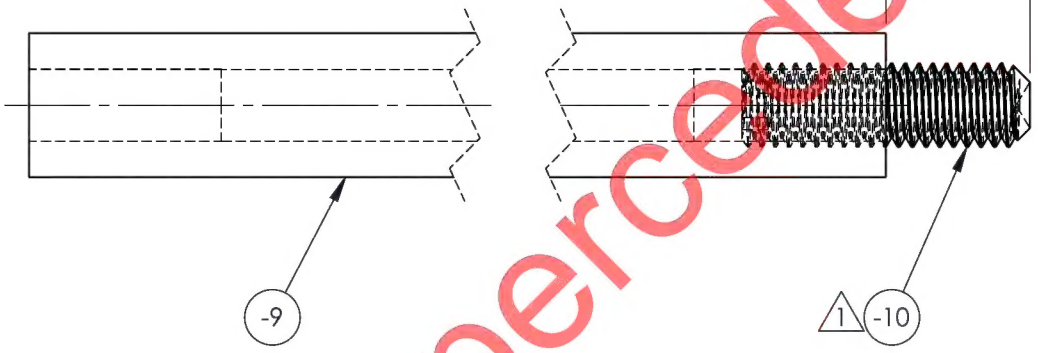
USED ON MODEL

SCALE 1:1 | DATE 8/17/2000 | SHEET 9 OF 17

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 7 | | CH'D P/N -10 SETSCREW DEPTH TO .75 PER G.E. | 9/28/2009 | RJC | - |
| 10 | 16-0096 | **-9A** ADDED TO BOM. | 8/4/2016 | DPD | JAG |
| 11 | 17-0069 | **-9A** CH'D LOCTITE NUMBER WAS 609 IS 262. | 3/22/2017 | DPD | JAG |








NOTE:

1. INSTALL -10 SOCKET HEAD SET SCREW USING 262 LOCTITE OR EQUIVALENT, ALLEN HEAD IN.

-9A

EXTENSION ASSEMBLY

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-9A REV 11

| | |
|---|---|
| MAT'L | |
| HEAT TREAT | |
| FINISH | |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

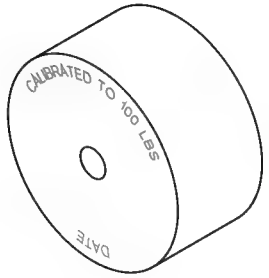
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

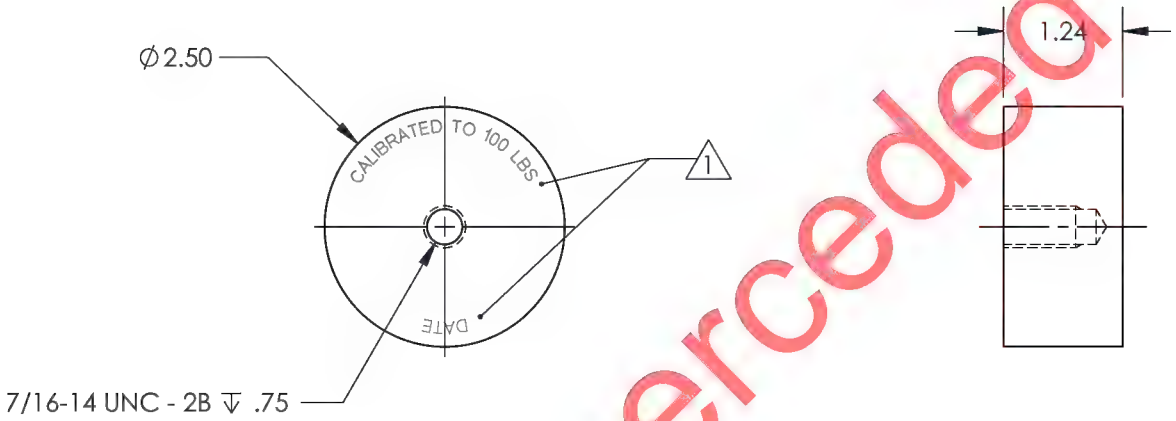
USED ON MODEL

SCALE 1:1 DATE 8/17/2000 SHEET 10 OF 17

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 10 | 16-0096 | **-11** REMOVED RB LOGO, ACTUAL WEIGHT, AND OPERATORS INITIALS FROM ENGRAVE NOTE. | 8/5/2016 | DPD | JAG |
| 11 | 17-0069 | **-11** CORRECTED SPELLING ON ENGRAVING WAS "CALIBRATIED" IS "CALIBRATED". | 3/22/2017 | DPD | JAG |






NOTE:

1. AFTER WEIGHT CERTIFICATION, ENGRAVE THIS SIDE WITH "CALIBRATED TO 100 lbs." & DATE.

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-11 REV 11

| | |
|---|---|
| MAT'L | BRASS |
| HEAT TREAT | |
| FINISH | |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL

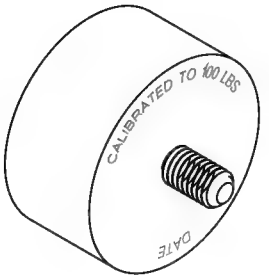
SCALE 1:2 DATE 8/17/2000 SHEET 11 OF 17

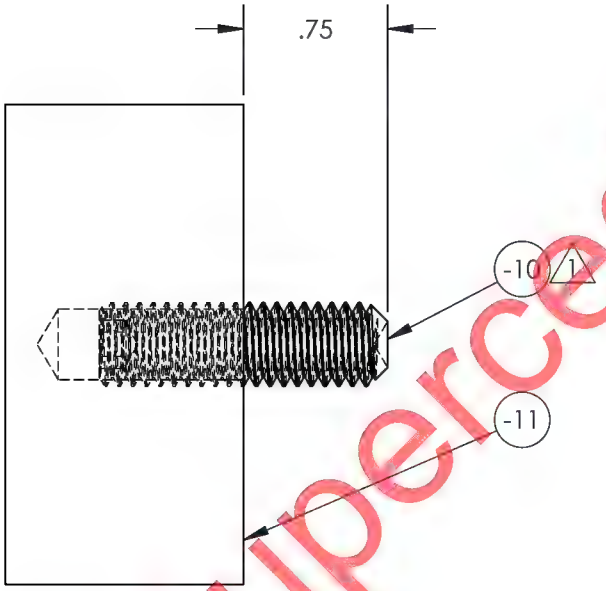
(-11)

WEIGHT

REVISIONS

| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
|---|---|---|---|---|---|
| 7 | | CH'D P/N -10 SETSCREW DEPTH TO .75 PER G.E. | 9/28/2009 | RJC | - |
| 10 | 16-0096 | **-11A** ADDED TO BOM. | 8/5/2016 | DPD | JAG |
| 11 | 17-0069 | **-11A** CH'D LOCTITE NUMBER WAS 609 IS 262. | 3/22/2017 | DPD | JAG |






NOTE:

1. INSTALL -10 SOCKET HEAD SET SCREW USING 262 LOCTITE OR EQUIVALENT, ALLEN HEAD IN.

-11A

WEIGHT ASSEMBLY

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-11A REV 11

| | |
|---|---|
| MAT'L | |
| HEAT TREAT | |
| FINISH | |
| SPEC | |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

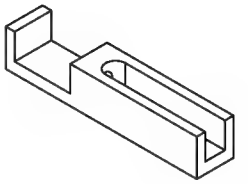
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

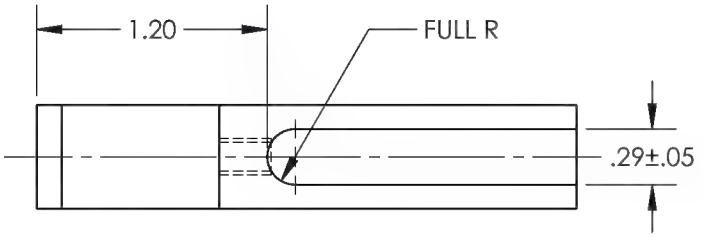
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

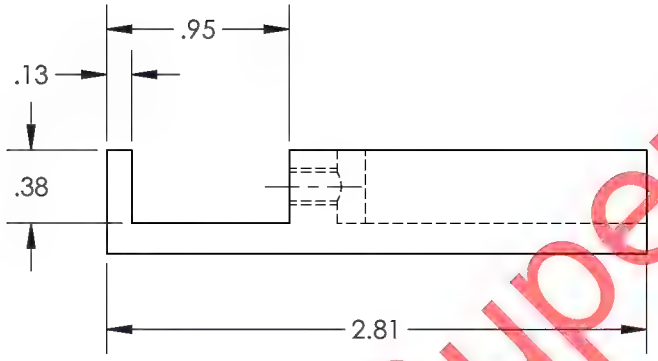
USED ON MODEL

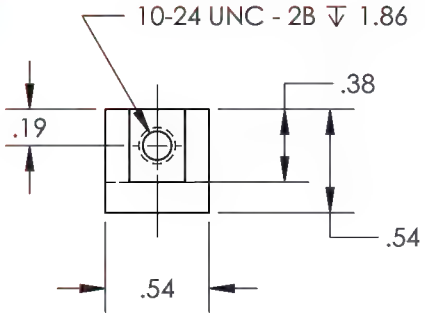
SCALE 1:1 DATE 8/17/2000 SHEET 12 OF 17

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
| 10 | 16-0096 | **-15** CH'D DIMS WAS R.125 IS FULL R, WAS 10-24 UNC IS 10-24 UNC-2B ↧1.86. | 8/5/2016 | DPD | JAG |








-15

CLEVIS BRACKET

DART AEROSPACE

TITLE
ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-15 REV 11

| | |
|---|---|
| MAT'L | 6061 |
| HEAT TREAT | |
| FINISH | BLACK ANODIZE |
| SPEC | MIL-A-8625F, TYPE II, CLASS II |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

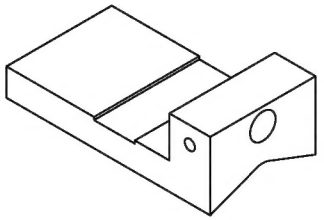
UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

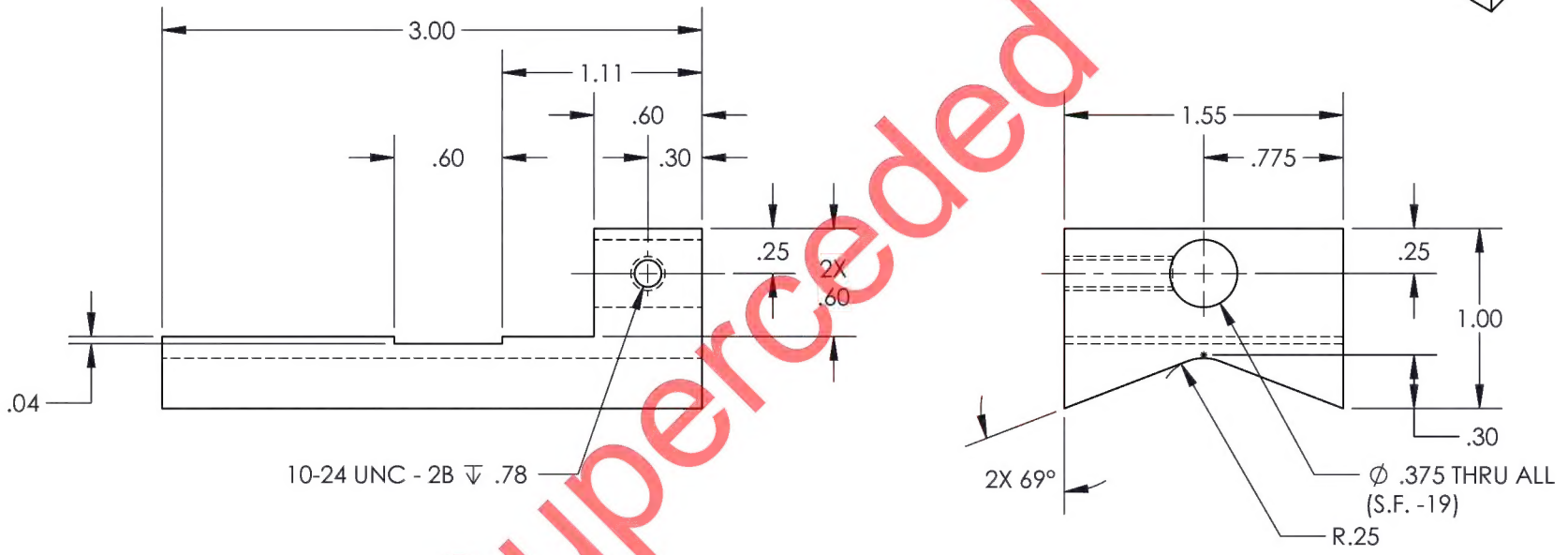
1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL

SCALE 1:1 DATE 8/17/2000 SHEET 13 OF 17

| REVISIONS | | | | | |
|---|---|---|---|---|---|
| REV | ECR | DESCRIPTION | DATE | INITIAL | APPROVED |
| 9 | | **-16** ADDED R.25 LEFT .30 DIM. TO THEORETICAL POINT. | 8/7/2013 | RJC | DW |
| 10 | | **-16** CH'D DIMS WAS .60 IS 2X .60, WAS 2X .775 IS .775. | 8/5/2016 | DPD | JAG |








(-16)

INDICATOR BRACKET

DART AEROSPACE

TITLE: ROTOR DAMPER TEST DEVICE

DWG NO. RBT18520-16 REV 11

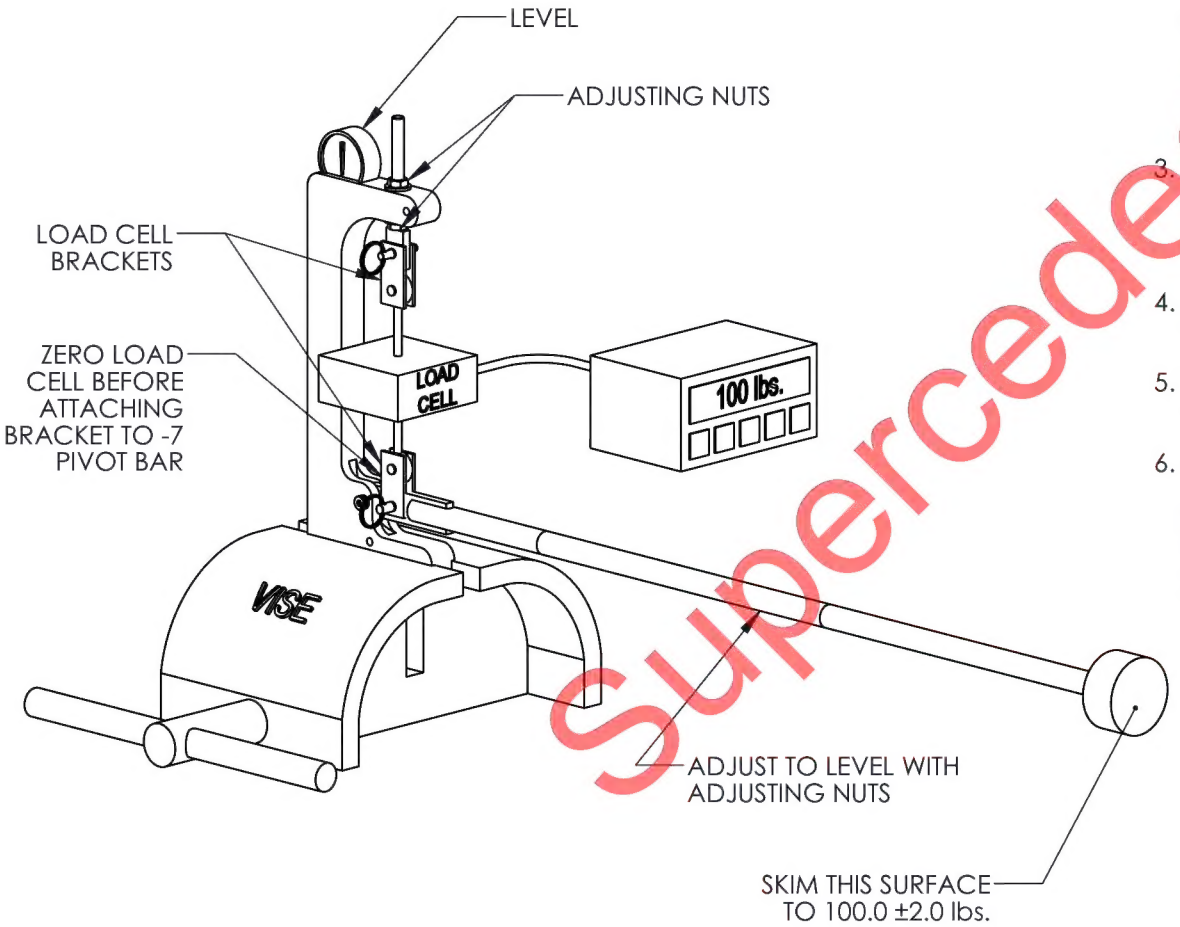
| | |
|---|---|
| MAT'L | 6061 |
| HEAT TREAT | |
| FINISH | BLACK ANODIZE |
| SPEC | MIL-A-8625F, TYPE II, CLASS II |
| DRAWN BY: | COLE |
| CHECKED: | MACKOVJAK |
| OPPS APPR: | ANDERSON |
| QA APPR: | LINDSAY |
| APPROVED: | GILBERT |

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
.XXX ± .010 FRACTIONS ± 1/8
.XX ± .03 ANGLES ±1°
.X ± .1 SURFACES = 125

1. BREAK ALL SHARP EDGES .015 x 45° OR .015R
2. DIMENSIONAL LIMITS APPLY AFTER PLATING
3. INTERPRET DIM AND TOL PER ASME Y14.5M-2009

USED ON MODEL

SCALE 1:1 | DATE 8/17/2000 | SHEET 14 OF 17



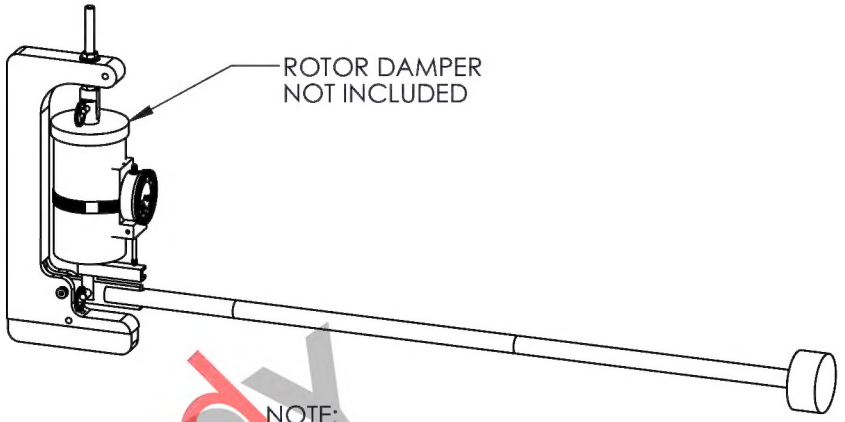

TESTING PROCEDURES:

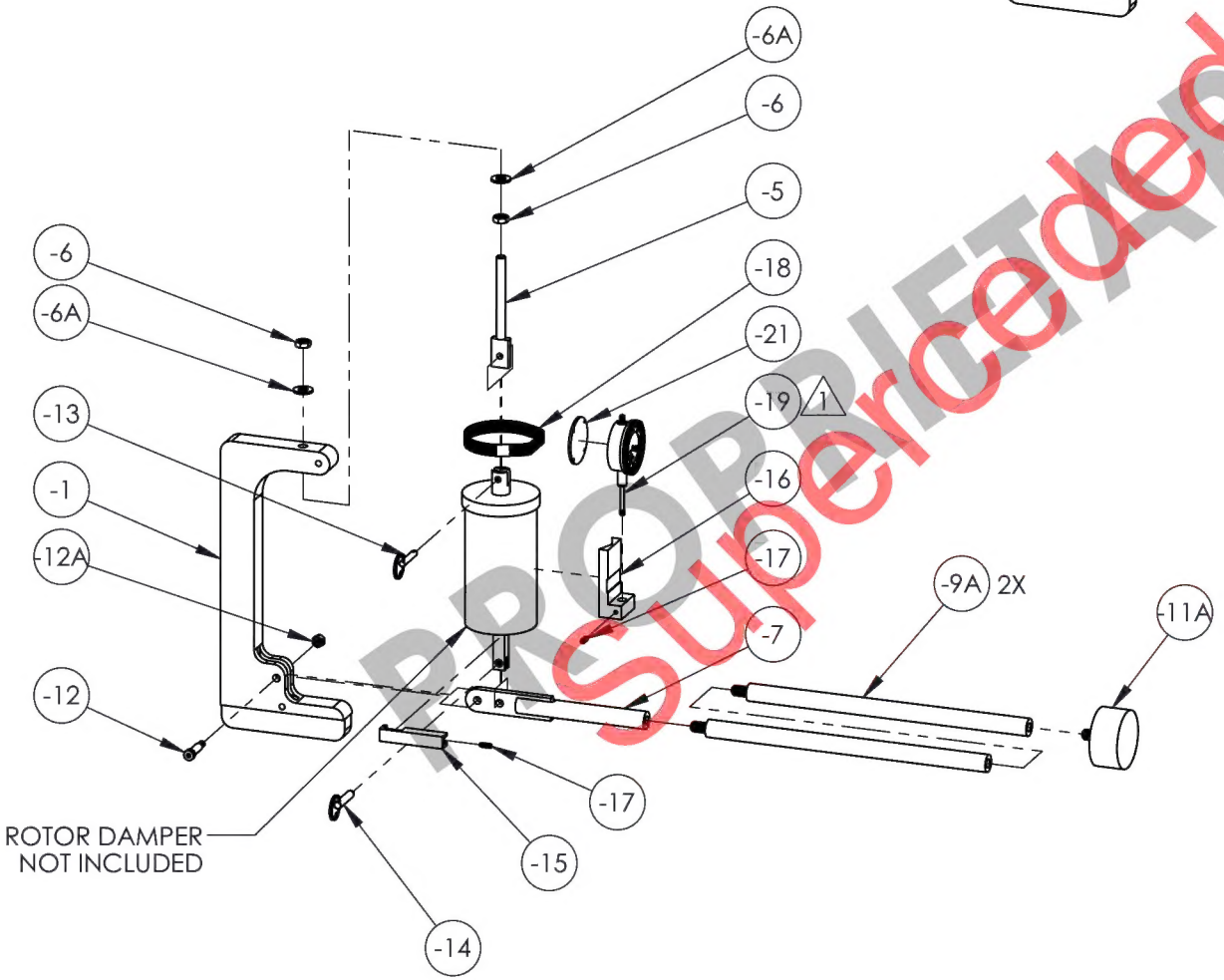
1. CLAMP UNIT IN VISE AS SHOWN, BE SURE UNIT IS LEVEL.
2. ATTACH THE LOAD CELL TO THE TOP ADJUSTING SCREW WITH BRACKETS AND SCREWS. MAKE SURE THAT THE LOAD CELL IS ALIGNED WITH THE ADJUSTING SCREW. ATTACH THE BOTTOM BRACKETS TO THE LOAD CELL, BUT DO NOT ATTACH THE BRACKETS TO THE -7 PIVOT BAR. PLUG THE LOAD CELL INTO THE DISPLAY AND PROPERLY PROGRAM THE DISPLAY. BE SURE TO ZERO THE LOAD CELL BEFORE CONTINUING.
3. ATTACH THE LOAD CELL BOTTOM BRACKETS WITH -14 PIN TO THE -7 PIVOT BAR, BE SURE THAT THE LOAD CELL IS ALIGNED WITH THE CENTER LINE OF UNIT.
4. ATTACH TWO -9A EXTENSIONS AND ONE -11A WEIGHT ASSEMBLY AS SHOWN.
5. LEVEL -9A EXTENSION ASSEMBLIES AND WEIGHT BY ADJUSTING THE TOP BOLT ADJUSTING NUTS.
6. SKIM THE FRONT FACE OF -11 BRASS WEIGHT UNTIL THE LOAD CELL REGISTERS 100.0 ±2.0 lbs. THE -9A EXTENSION ASSEMBLIES MUST REMAIN LEVEL THROUGH THIS PROCESS. WHEN -11 HAS REACHED IT'S PROPER WEIGHT, THE UNIT IS CALIBRATED. BE SURE TO ENGRAVE THE PROPER INFORMATION ON THE -11 BRASS WEIGHT.



DART AEROSPACE
190 S. Danebo Ave., Eugene, OR. 97402
1-800-556-4166
e-mail: sales@dartaero.com
dartaerospace.com

| | | | |
|---|---|---|---|
| TITLE: ROTOR DAMPER TEST DEVICE | | | |
| DWG NO. RBT18520 | REV 11 | WEIGHT TEST 1 OF 1 | |
| SCALE 1:6 | DATE 8/17/2000 | SHEET 15 OF 17 | |






NOTE:
1. CALIBRATED UPON CUSTOMER REQUEST.

| Part # | UNIT QTY | Description |
|---|---|---|
| -1 | 1 | FRAME |
| -5 | 1 | TOP BOLT WELDMENT |
| -6 | 2 | JAM NUT |
| -6A | 2 | FLAT WASHER |
| -7 | 1 | PIVOT BAR WELDMENT |
| -9A | 2 | EXTENSION ASSEMBLY |
| -11A | 1 | WEIGHT ASSEMBLY |
| -12 | 1 | SOCKET HEAD SHOULDER BOLT |
| -12A | 1 | NYLON LOCK NUT |
| -13 | 1 | QUICK RELEASE PIN |
| -14 | 1 | QUICK RELEASE PIN |
| -15 | 1 | CLEVIS BRACKET |
| -16 | 1 | INDICATOR BRACKET |
| -17 | 2 | SOCKET HEAD SET SCREW (DOG POINT) |
| -18 | 1 | HOSE CLAMP |
| -19 | 1 | 1 in. DIAL INDICATOR ⚠1 |
| -21 | 1 | FLAT BACK FOR DIAL INDICATOR |
| -23 | 1 | LARGE PISTOL CASE (NOT SHOWN) |

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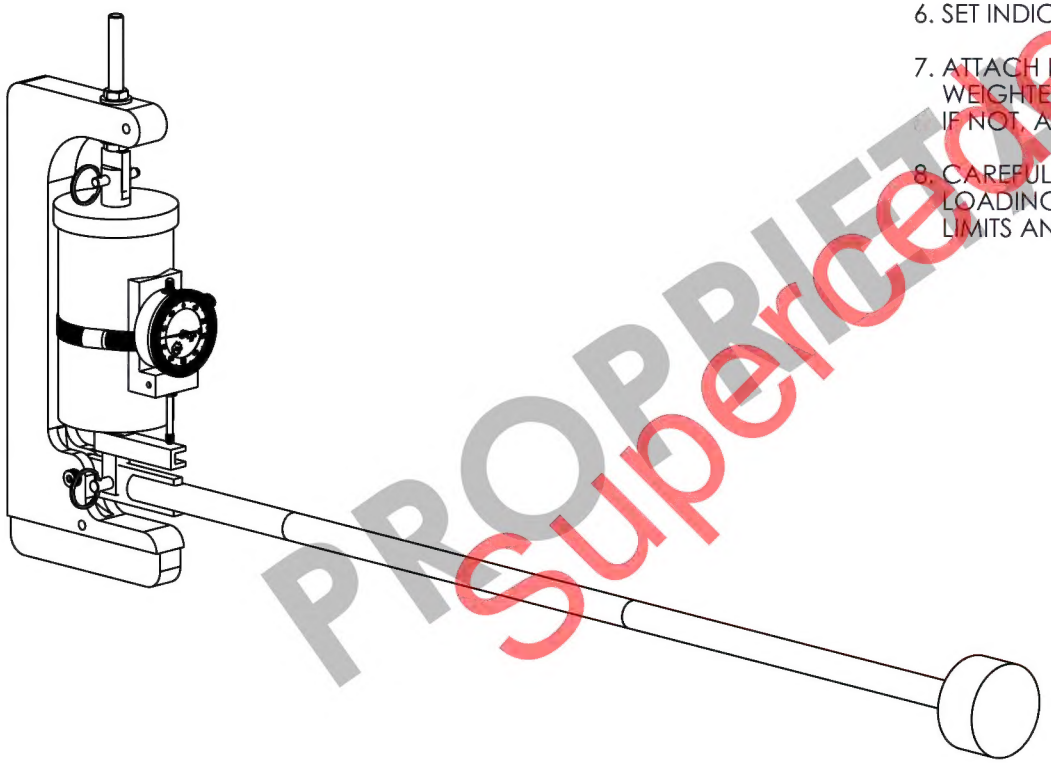
dartaerospace.com

TITLE
# ROTOR DAMPER TEST DEVICE

| DWG NO. | REV | |
|---|---|---|
| RBT18520 | 11 | CUSTOMER 1 OF 2 |
| SCALE 1:8 | DATE 8/17/2000 | SHEET 16 OF 17 |

INSTRUCTIONS:

1. CLAMP -1 TESTER FRAME SECURELY IN A BENCH VISE.
2. ATTACH -16 BRACKET AND -19 DIAL INDICATOR TO OUTER CASE OF DAMPER WITH -18 HOSE CLAMP.
3. ATTACH -15 BRACKET TO DAMPER CLEVIS USING BRACKET SETSCREW.
4. ATTACH DAMPER TO -5 TOP BOLT WITH -13 PIN.
5. ADJUST -19 DIAL INDICATOR TO A POSITION THAT ENSURES ENOUGH TRAVEL FOR TEST.
6. SET INDICATOR DIAL TO ZERO.
7. ATTACH DAMPER CLEVIS TO -7 PIVOT BAR WITH -14 PIN. WEIGHTED ARM SHOULD BE HORIZONTAL AT START OF TEST, IF NOT, ADJUST -5 TOP BOLT ADJUSTING NUTS ACCORDINGLY.
8. CAREFULLY APPLY WEIGHT TO DAMPER AS TO AVOID SHOCK LOADING. REFER TO MDHC MAINTENANCE MANUAL FOR SERVICE LIMITS AND ADDITIONAL INFORMATION.





NOTE:
SUPPORT WEIGHT ARM SO THAT NO LOAD IS ON THE DAMPER UNTIL YOU ARE READY TO PERFORM THE TEST.

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| | | | |
|---|---|---|---|
| TITLE: ROTOR DAMPER TEST DEVICE | | | |
| DWG NO. RBT18520 | REV 11 | CUSTOMER 2 OF 2 | |
| SCALE 1:5 | DATE 8/17/2000 | SHEET 17 OF 17 | |